

REMARKS/ARGUMENTS

Applicants wish to thank the Examiner for considering the present application. In the Office Action dated November 21, 2003, claims 1-20 are pending in the application. The allowability of claims 6, 11-14, and 18-20 if rewritten in independent form is acknowledged. Applicants respectfully request the Examiner for reconsideration. Typographical errors (namely, omission of period at end of claims) have been corrected in Claims 6, 11, 12, 13, 18 and 20 to improve form.

The drawings stand objected to for failing to comply with 37 C.F.R. §1.84(p)(5). The post-processor on page 13 has been changed to reference numeral 44 rather than 40. Applicants believe that this amendment overcomes this rejection and therefore the drawings do not have to be amended.

The reference for the intended user on page 21 has been changed to 110 consistent with the rest of the specification. Applicants believe that the change to the specification overcomes this rejection and therefore an amendment to the drawings does not need to be made.

The drawings also stand objected for failing to comply with 37 C.F.R. §1.84(p)(4). Applicants have amended Fig. 6 to delete the second instance of reference numeral 106 and replaced it with 104 to make it consistent with the specification. A clean replacement sheet of drawings including Figs. 6 and 7 incorporating this change and an annotated sheet showing the change marked in red are attached.

Also, the disclosure stands objected to for an informality on page 37 whereas the Applicants state that the UHF frequency band is 20 MHz. Applicants respectfully disagree with the Examiner's assessment. It should be noted that this sentence states: "This subsystem operates in a 20 MHz frequency band, which is divided into 25 kHz

channels.” The uplink for the UHF subsystem is at 305 MHz. The 20 MHz band of operation includes 305 MHz, which is included within the UHF frequency band as noted by the Examiner. The Examiner should note that the system uses 20 MHz that includes the 305 MHz in the communication. It is common for communication systems to specify a general frequency of operation and a frequency band of operation. The sentence the Examiner refers to is the frequency band.

Claims 7-10 stand rejected under 35 U.S.C. §102(e) as being anticipated by *Leopold* (6,226,493). Claim 7 is an independent claim directed to a mobile wireless communication system. Claim 7 has been amended to clarify that the satellite constellation consists of a plurality of satellites. Each of the plurality of satellites is in an orbit that is a geosynchronous orbit centered about a geosynchronous reference orbit. Each of the plurality of satellites is capable of relaying signals between the ground hub and the plurality of user terminals in either direction. The satellite constellation appears to rotate at a uniform rate about the geosynchronous reference orbit as viewed by a single user so that the apparent inter-satellite spatial relationships are maintained.

Although the *Leopold* reference describes perturbed orbits, the purpose of the perturbed orbits as shown in Fig. 4 appears to be to provide non-adjacent satellites with inter-satellite links to each other. As shown in Fig. 4 of the *Leopold* reference, satellite 171 can communicate with satellite 173 without interference of satellite 172. No teaching or suggestion is provided for a satellite constellation in an orbit that is centered about a geosynchronous orbit position so that the satellite constellation appears to rotate at a uniform rate about the geosynchronous reference orbit as viewed by a single user so that the apparent inter-satellite spatial relationships are maintained. Because different orbital positions are illustrated in Fig. 4 of the *Leopold* reference, the inter-satellite spatial relationships cannot be maintained in the *Leopold* reference.

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Likewise, claims 8 and 9 are also believed to be allowable for the same reasons set forth above. Claim 9 has been canceled.

Claims 1-5 and 15-17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Weinberg* (5,589,834) in view of *Leopold* (6,226,493). Claim 1 has been amended to clarify that multiple paths are used to communicate the signal. Claim 1 has been amended to state the step of radiating a first portion of said signal and a second portion of said signal through multiple paths to at least two satellites then from the satellites the step of "combining the first portion of the signal and the second portion of the signal to reform the signal" has been inserted into the claim. Thus, one signal is divided into multiple paths and recombined. Claim 1 has also been amended to clarify that the orbits of the satellites are perturbed in inclination and eccentricity relative to a common geosynchronous reference orbit and that the apparent satellite motion of the at least two satellites about the geosynchronous reference orbit remains substantially uniform. The Examiner states that the *Weinberg* reference "radiates said signal through multiple paths to at least two satellites." However, one signal is not broken up between multiple paths as has been clarified by the present amendment.

As described above, the *Leopold* reference teaches perturbed orbits but does not teach a plurality of satellites about a common geosynchronous reference orbit where the apparent motion of the satellites about the geosynchronous reference orbit remains substantially constant.

Claim 15 has been amended to recite transmitting a first portion and a second portion of said signal through different paths to a plurality of satellites in a satellite constellation to an intended one of the mobile terminals and combining the first portion of the signal and the second portion of the signal at the mobile terminal to reform the signal. The method further includes perturbing the inclination and eccentricity of the plurality of satellites relative to a common geosynchronous reference orbit. The method also includes determining a relationship between the inclination and the eccentricity of the plurality of satellites such that they appear to move at a constant speed along circular paths where centers are located at a position defined by a hypothetical reference satellite in an unperturbed geosynchronous orbit. As described above, neither the *Weinberg* or *Leopold* references teach using multiple paths for communication.

Claims 2-5 and 16-17 are also believed to be allowable for the same reasons set forth above with respect to claims 1 and 15.

In light of the above amendments and remarks, Applicants submit that all rejections are now overcome. Applicants have added no new material to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, she is respectfully requested to call the undersigned attorney.

Serial No. 09/576,652

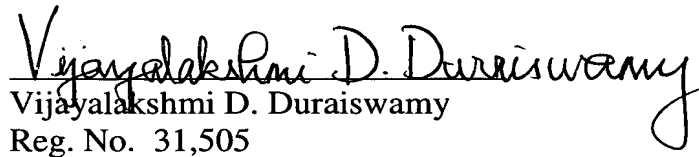
Amendment dated February 6, 2004

Reply to Office Action of November 21, 2003

NOTE CONCERNING INFORMATION DISCLOSURE STATEMENTS:

The undersigned left a message for the Examiner on February 6, 2004, pointing out that none of the PTO 1449 forms for the Information Disclosure Statements that had previously been submitted (on or about March 12, 2001, March 16, 2001, March 30, 2001 and December 5, 2001) had been returned with the Office Action with the initials and signature of the Examiner. The Examiner was requested to mail these forms with initials and signatures. Please mail the signed PTO-1449 forms.

Respectfully submitted,


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